



# Hood Canal Bridge Retrofit and East-Half Replacement

Spring 2002

## Project Overview

The Hood Canal Bridge Retrofit and East-Half Replacement Project was undertaken to address factors affecting the service life of the bridge.

An extensive evaluation of the bridge in 1997 considered both rehabilitation of the existing structure and replacement of the east half. Following the evaluation, the Washington Department of Transportation (WSDOT) published an report with the following results:

- The east half of the structure had been subjected to much greater storm-related forces than envisioned during the original design, and that these storms had caused mechanical and structural damage that necessitated repair (past attempts to repair and refurbish this section of the bridge have not given the expected results).
- Due to extensive cracking caused by violent storms, the remaining service life of the east-half pontoons had been reduced.

WSDOT concluded the risk of critical damage due to major storms, in itself, is sufficient cause for replacement of the east-half. If the bridge were to fail in a storm, a replacement could not be fabricated and assembled in its place in less than two years. In preparation for replacing the east half of the bridge prior to failure, design of the new east-half floating portion began in 1998 and will conclude in October 2002. The estimated cost of the bridge replacement and widening of the west half to provide continuous 8-foot shoulders across the bridge is estimated to cost \$205 million.

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## Closure Mitigation

An eight week total closure of the bridge is necessary to float out the old east half, float in the new pontoons and secure the new pontoons in place. Plans to lessen the impact to bridge users during this expected eight-week closure during May/June 2006 have been developed through a cooperative effort between the Peninsula Regional Transportation Planning Organization (PRTPO), a regional group that includes elected officials from Clallam, Jefferson, and Kitsap counties and WSDOT.

The PRTPO members conceived traffic mitigation solutions and the same members either further developed those solutions or eliminated them from consideration. The preliminary plan was taken to the public for comment and input. Traffic mitigation decisions were made with the support and final approval of the PRTPO. Current approved traffic mitigation actions are:

- Passenger-only ferry service between South Point and Port Gamble with large and secure park-and-ride locations serviced by local transit agencies;
- Passing lanes on US 101 at Mount Walker;
- Medical outreach program;
- Rideshare Program;
- Sustained public outreach program tailored to bridge users.

These actions will cost a total of \$10 million dollars. Consideration is still being given to additional ferry runs on existing ferry routes.

In addition to the direct actions listed above, WSDOT has developed innovative construction methods that expedite the Contract and shorten the closure period from a possible 21 weeks to 8 weeks at an additional cost of \$15 million.

- Approach spans will be replaced without disruption to traffic except for two 3-day weekend closures.
- The construction schedule for replacement of the floating portion will be compressed to eight weeks with high penalties for time overruns to keep bridge closure minimal.

## Where We Are At Now

Bridge construction plans are nearing completion, with final design and estimates due for review in June. Final plans will be completed by October and the project will be advertised to bidders in December 2002. A contractor will be selected and work will commence by June 2003.

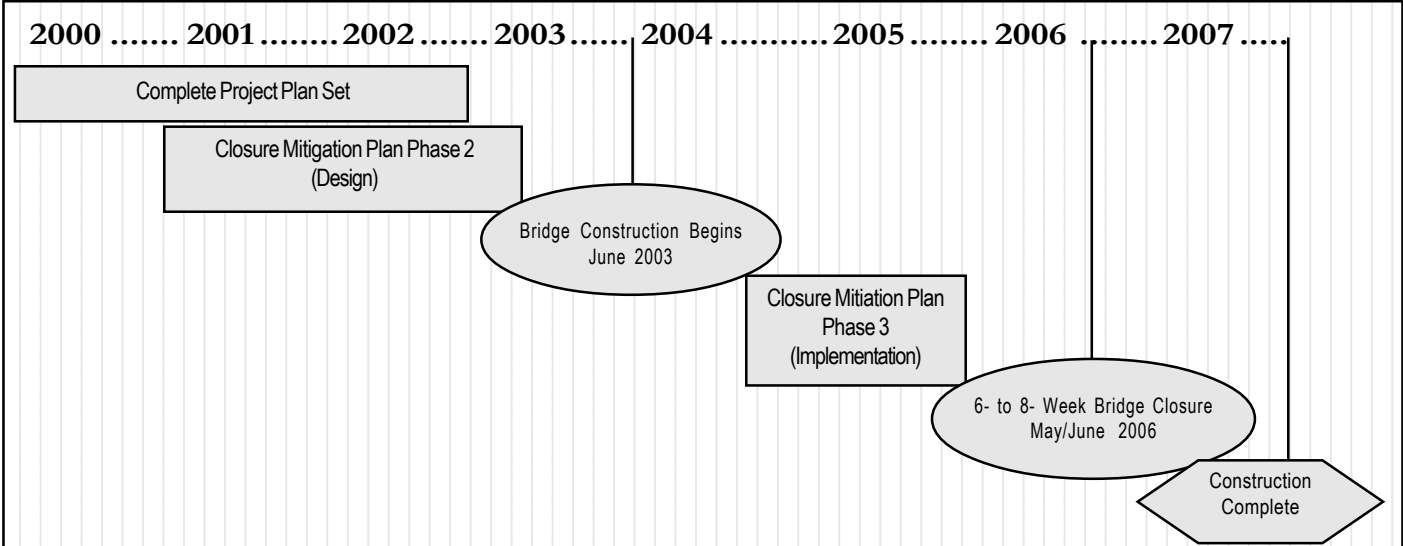
Although the plans are nearly complete, the environmental permitting process has just started. Permits cannot be acquired until the project design reaches a high level of completion. All permits are expected by December 2002.

There will be three years of pontoon building and other preparatory work required before the new east half can be floated into place. During the three-year period from June 2003 to May 2006 the following items of work need completion:

- Replacement of both east and west bridge approaches. These are the fixed structures on either end of the bridge. This work is required to update the supporting piers to current earthquake standards and widen the roadway.
- Replacement of the east and west transition trusses. These are the structures, which attach the floating portion of the bridge to the fixed approach sections. These new trusses are being built to accommodate future widening. These structures will be fabricated off site and installed during the 2006 closure.
- Build 14 new pontoons. This work will happen off site.
- Recondition three pontoons currently stored in Gamble Bay. These pontoons were originally built and used temporarily during the reconstruction of the west half in 1980-82. This work will happen at an off site facility.
- Build a new draw span that updates the draw span to a configuration just like the west half. This work will occur off site and will be incorporated into the bridge during the 2006 closure.

# Project Timeline

Following the approval of the revised State Transportation Budget in May 2000, staff has been working on the following timeline for the project:



Washington State Department of Transportation

## Hood Canal Bridge Retrofit and East-Half Replacement Project

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## Closure Mitigation Actions: Why No Vehicle Ferry?

When the Hood Canal Bridge is closed in 2006, the approximately 2,000 trucks and 19,000 cars which currently use the bridge will need to detour. One idea which had many supporters was to re-route vehicle ferries to Port Townsend to carry the traffic. Further study of this option revealed the ferries would only be able to carry 10 percent of the truck and auto traffic. Further more, the time to take the ferry, after calling to make and purchase a reservation, arriving at Port Townsend an hour prior to sailing, and making the 100-minute ferry ride, would result in a trip time longer than if the individual simply drove his car or truck around the Hood Canal on US 101.

Because of the budget limitation for all mitigation actions as limited to \$10 million, the choice had to be made between providing auto ferry service out of Port Townsend

(estimated to cost \$6.7 million) and passenger only ferry service across the Hood Canal (estimated to cost \$6.5 million). Trucking company officials have indicated a preference to drive their trucks around the Hood Canal on US 101. The goal, then, is to get as many cars as possible off of US 101 to avoid a jammed highway that will cause delays for freight shipments, commuters and tourists. The decision was made through the Peninsula Regional Transportation Planning Organization to eliminate the car ferry option. A passenger-only ferry service in the vicinity of the HCB from South Point to Port Gamble offers two things the vehicle ferry does not:

- ✓ Timely service with multiple departures per hour;
- ✓ A short 20 minute ride compared to a 100 minute vehicle ferry ride.

To comment, request information, or to learn more about the project, write WSDOT Port Orchard Project Engineer's Office at the return address listed, email [orportorchard@wsdot.wa.gov](mailto:orportorchard@wsdot.wa.gov)  
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